

## REMARKS/ARGUMENTS

In the Office Action mailed April 29, 2008, claims 1, 4-6, and 9-21 were rejected. In response, Applicant hereby requests reconsideration of the application in view of the proposed amendments and the below-provided remarks. No claims are added or canceled.

For reference, proposed amendments are presented for claims 4 and 19. In particular, the proposed amendment for claim 4 amends the dependency from claim 2 to claim 1. The proposed amendment for claim 19 amends the language to recite “schedule the best effort data and three steps,” as suggested by the Examiner. These amendments are presented to place the present application in better condition for allowance or appeal.

### Objections to the Claims

The Office Action objects to claims 4 and 19 for the following informalities. In particular, claim 4 depends on canceled claim 2. Applicant submits that claim 4 is amended to depend from claim 1. Additionally, claim 19 recites “schedule the best effort data and three steps.” Applicant submits that claim 19 is amended to recite “schedule of the best effort data in three steps.” In light of these amendments, Applicant respectfully requests that the objections to claims 4 and 19 be withdrawn.

### Claim Rejections under 35 U.S.C. 103

Claims 1, 4-6, and 9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Chiussi (U.S. Pat. Pub. No. 2003/0142624, hereinafter Chiussi) in view of Odman (U.S. Pat. Pub. No. 2003/0152059, hereinafter Odman). Additionally, claim 10 was rejected under 35 U.S.C. 103(a) as being unpatentable over Chiussi in view of Odman and further in view of Hill (U.S. Pat. Pub. No. 2003/0035422, hereinafter Hill). Additionally, although it is not completely clear from the Office Action what combinations are relied on for the rejections of claim 11-21, it appears that claims 11-21 were rejected under 35 U.S.C. 103(a) as being unpatentable over various combinations of Karawai et al. (U.S. Pat. Pub. No. 2001/0033581, hereinafter Karawai), Chiussi, Odman, and Dell et al. (U.S. Pat. Pub. No. 2002/0085578, hereinafter Dell). In particular, it appears that claims 12 and 21 were rejected based on the teachings of Karawai; claims 13

and 16-18 were rejected based on the combination of Karawai and Chiussi; claim 11 was rejected based on the combination of Karawai, Chiussi, and Odman; and claims 14, 15, 19, and 20 were rejected based on the combination of Karawai, Chiussi, Odman, and Dell.

Applicant respectfully submits that these claims are patentable over Chiussi, Odman, Hill, Karawai, and Dell for the reasons provided below.

#### Independent Claim 1

Claim 1 recites “at least one guaranteed throughput input buffer coupled to at least one data switch input, wherein the at least one guaranteed throughput input buffer is configured to store only one unit of guaranteed throughput data at a time” (emphasis added).

The Office Action relies solely on Chiussi as purportedly teaching a guaranteed throughput input buffer that stores only one unit of guaranteed throughput data at a time. While the Office Action recognizes that Chiussi does not teach an actual size of the flow queues 502, the Office Action nevertheless asserts that the flow queues 502 purportedly store only one flow of guaranteed throughput data at a time because each flow queue 502 services a single guaranteed bandwidth (GB) flow. In other words, the Office Action asserts that a “flow” is a unit of guaranteed throughput data.

In order to better understand the difference between a flow and a unit, it may be useful to distinguish a unit of data from a flow of multiple units of data. Within the context of the present application, the guaranteed throughput input buffers are described, in some embodiments, as being chosen to be only “one deep.” As explained in Applicant’s previous response, this refers to the size of the input buffer in relation to the size of each chunk of data stored in the buffer, where each chunk of data is referred to as a unit. For example, a unit may be characterized by the number of bits that are allowed to be transmitted together as a group. One common type of data unit is referred to as a packet. In fact, Chiussi refers to packets in the description of the scheduler described in the cited reference.

While a unit refers to the size of a group of data, the flow described in Chiussi does not pertain to a particular size of data units. More specifically, there appears to be

no correlation in Chiussi between the flow of data and the size of data units within a particular flow. Rather, the description in Chiussi of a flow of data merely implies that there are multiple units, or chunks, of data that are transmitted along a similar path. However, there is no description of a particular size for the data units. Even though the specified transmission paths for each flow include flow queues, there is no specific teaching in Chiussi to describe how many data units, or chunks, might be stored in the flow queues at a single time. Thus, the difference between a flow of data units and the size of each individual data unit is not addressed in Chiussi because Chiussi merely teaches data flows, generally.

Moreover, the description of each data flow in Chiussi is understood to include a stream of multiple packets. Chiussi specifically teaches that received packets are stored in respective flow queues. Chiussi, paragraph 45. This teaching, in combination with the illustration of Fig. 5, should be understood to mean that each flow queue is arranged to store multiple units of data (e.g., packets). In particular, Fig. 5 illustrates each flow queue with multiple subdivisions separated by dashed lines. These subdivisions conventionally indicate the ability to store a packet, or another unit of data, in each subdivision. Since each flow queue has multiple subdivisions illustrated therein, the corresponding descriptions should be understood to indicate that each flow queue has a capacity to store multiple packets.

Furthermore, the terminology used to describe each flow queue indicates the ability to store multiple packets and each queue. In general, a “queue” indicates a data structure to store a sequence of data units (e.g., packets). Hence, the terminology used to describe the flow queues is also descriptive of the ability of each queue to store multiple data units. The fact that a single flow queue might correspond with a particular flow of data (e.g., multiple packets) does not negate the fact that each flow queue is arranged to store multiple data units.

Therefore, the combination of Chiussi and Odman does not teach all of the limitations of the claim because Chiussi does not teach storing only one unit of guaranteed bandwidth data at a time in each flow queue. Accordingly, Applicant respectfully submits that claim 1 is patentable over the combination Chiussi and Odman

because the combination of cited references does not teach all of the limitations of the claim.

#### Independent Claim 5

Claim 5 recites “scheduling, in one step, guaranteed throughput data for switching, wherein the one step comprises a reservation of inputs and/or outputs” (emphasis added).

The Office Action relies solely on Chiussi as purportedly teaching one step of reserving inputs and/or outputs to schedule a guaranteed throughput data. However, Chiussi merely describes sending a frame to an outgoing link. Applicant submits that sending a frame to an outgoing link is not the same as a reservation because sending the frame is part of the actual transmission of the frame, and is not part of a precursor reservation operation. In other words, by initiating the actual transmission of the frame to a particular output link, there is no need to reserve the corresponding output link because the transmission of the frame has already begun. Thus, sending the frame to the outgoing link is not a reservation of the outgoing link, but rather actual use of the outgoing link.

Although the Office Action attempts to rely on the general scheduling nature of the schedulers, PWS and SWS, to support the assertion of reserving, the description of scheduling provided in Chiussi does not incorporate any type of reservation. The Office Action appears to assert that a reservation functionality might be available in all types of scheduling. However, it should be understood that many types of scheduling can be implemented without any functionality for reserving inputs or outputs. In fact, the type of scheduling described by Chiussi does not employ any reservation functionality. Rather, Chiussi merely describes implementing scheduling through sending actual transmissions according to the PWS and the SWS. As explained in Applicant’s previous response, sending the actual transmission should not be construed as a reservation because sending the actual transmission obviates the need for any type of reservation.

Therefore, the combination of Chiussi and Odman does not teach all of the limitations of the claim because Chiussi does not teach scheduling guaranteed throughput data in one reservation step to reserve inputs and/or outputs. Accordingly, Applicant respectfully submits that claim 5 is patentable over the combination Chiussi and Odman

because the combination of cited references does not teach all of the limitations of the claim.

#### Independent Claim 11

Claim 11 recites “guaranteed throughput control means to schedule the guaranteed throughput data for transfer through the switching matrix to one of the plurality of outputs of the switching matrix” (emphasis added) and “best effort control means to schedule the best effort data for transfer through the switching matrix to another one of the plurality of outputs of the switching matrix, wherein best effort control means is further configured to schedule the best effort data based on a contention free guaranteed throughput scheduling” (emphasis added).

From a review of the Office Action’s treatment of claim 11, it appears that the Office Action does not establish a *prima facie* rejection for claim 11. In order to establish a *prima facie* rejection of a claim under 35 U.S.C. 103, the Office Action must present a clear articulation of the reason why the claimed invention would have been obvious. MPEP 2142 (citing *KSR International Co. v. Teleflex Inc.*, 550 U.S. \_\_ (2007)).

Here, the Office Action fails to explain why the limitations of claim 11 would have been obvious because the Office Action does not acknowledge the actual language of claim 11, as a whole. In particular, the Office Action fails to acknowledge that claim 11 recites the emphasized language indicated above. In fact, the Office Action does not even make an assertion that the various cited references might describe the indicated limitations, or that the indicated limitations might otherwise be obvious in light of the cited references. Nevertheless, claim 11 recites specific limitations that are not addressed in the reasoning presented in the Office Action. Hence, the Office Action does not present a clear articulation of the reason why the limitations recited in the claim might have been obvious because the Office Action does not even address the language of the claim, as a whole. Therefore, the Office Action fails to establish a *prima facie* rejection for claim 11 because the Office Action does not assert or show how the cited reference might teach the indicated limitations of the claim. Accordingly, Applicant respectfully submits that the rejection of claim 11 under 35 U.S.C. 103(a) should be withdrawn because the Office Action fails to establish a *prima facie* rejection.

### Dependent Claims

Claims 4, 6, 9, 10, and 12-21 depend from and incorporate all of the limitations of the corresponding independent claims 1, 5, and 11. Applicant respectfully asserts claims 4, 6, 9, 10, and 12-21 are allowable based on allowable base claims. Additionally, each of claims 4, 6, 9, 10, and 12-21 may be allowable for further reasons.

### **CONCLUSION**

Applicant respectfully requests reconsideration of the claims in view of the proposed amendments and the remarks made herein. A notice of allowance is earnestly solicited.

At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account **50-3444** pursuant to 37 C.F.R. 1.25. Additionally, please charge any fees to Deposit Account **50-3444** under 37 C.F.R. 1.16, 1.17, 1.19, 1.20 and 1.21.

Respectfully submitted,

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